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GOOD HEALTH

Editor: JOHN HARVEY KELLOGG, M.D., LL.D., F.A.C.S.

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A Lesson in Diet from the Japanese

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PUBLISHERS.

GOOD HEALTH

Devoted to Hygiene and Race Betterment and the Development
of an Aristocracy of Health

Edited by DR. JOHN HARVEY KELLOGG

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A Lesson in Diet from the Japanese

by Dr. John Harvey Kellogg

THE JAPANESE nation has within the last three quarters of a century set the world an unprecedented example of progress in civilization and the acquisition of modern culture. And in spite of all the jibes and ridicule belched out by the pork barons of Packingtown against flesh abstainers, the great majority of the Japanese people still adhere to the simple vegetarian ways of their ancestors for many hundreds of years back. The following account of their dietary habits and the excellent results in the development of one of the hardest and most progressive of all modern nations, will be of interest to GOOD HEALTH readers as proof that the fleshless bill of fare is safe and sane.

Professor Baeltz, an eminent German physician who was the attendant of the late Mikado of Japan, and recognized as one of the best authorities on Japan and the Japanese people, tells us that "the people of the lower classes in Japan who subsist almost wholly on carbohydrate foods are altogether of more powerful build than those of the upper classes who eat meat. It is well known to students of dietetics that the Japanese for some thousand years past have been experimenting with vegetable and cereal foods, and at the present time the diet upon which the bulk of the Japanese people subsist is sufficient for the main-

tenance of an effective nitrogen equilibrium, as well as to keep them in a state of efficient nutrition."

Professor Baeltz had two jinrikisha men in his employ, both powerful young fellows, aged twenty-two and twenty-five respectively, who had followed their calling for years. He used them as subjects for experiment. They were provided with an accurate amount of measured food, the chemical composition of which was ascertained by recognized means. These men received definite instructions: Every day for three weeks their duty was to drag a jinrikisha with Professor Baeltz, who weighed 176 pounds, a distance of twenty-five miles, running all the time. This would seem to be an arduous task, but not more so than these men would willingly and readily undertake. It would be considered quite an undertaking to walk a distance of twenty-five miles every day for three weeks with an August sun at its height, but for these men to run this distance every day, and to drag a jinrikisha with a passenger weighing 176 pounds, is rather more than one would usually expect.

"During this experiment the men kept to their usual diet, which consisted of fats amounting to less than the proposed standard enunciated by Voit, while the contained protein

fluctuated from between 60 to 80 per cent of his postulate. Carbohydrates were provided in large quantities in the form of rice, potatoes, barley, chestnuts, lily roots and other foodstuffs peculiar to the country. At the end of the experiment the men were weighed. One had gained half a pound and the other was the same as at the beginning." Professor Baeltz now told the men that they would be allowed a liberal allowance of meat, which quite delighted them, as meat to them was a luxury. The carbohydrate ration was cut down and a proportionate quantity of meat—not quite as much protein as the Voit standard, but a considerable amount—was allowed. The men ate with avidity, but after three days on the meat diet they importuned Professor Baeltz to discontinue the meat and to give it to them only upon conclusion of the experiment because they felt fatigued and could not run as well as they did previous to taking meat. Baeltz then allowed them to return to their original carbohydrate dietary, with the same result as before—the one retained his weight, with perhaps a difference of 100 grams (three ounces), and the other gained about half a pound.

"Baeltz records an even greater feat of endurance on a smaller diet. He was driving from Tokio to Nikko, a distance

of about sixty-eight and a half miles. It was midsummer and fearfully hot, and it took Baeltz from six o'clock in the evening until eight o'clock the following morning — fourteen hours — to make the distance. He says that, just as he was driving out of Tokio, he saw a Japanese sitting in a jinrikisha and asked him where he was going. Nikko was likewise his destination, and he was being pulled along by a man. He arrived in Nikko just half an hour after Baeltz. Baeltz records that his driver had changed horses six times, and this Japanese jinrikisha man had dragged his compatriot, an adult weighing 119 pounds, a distance of sixty-eight and a half miles at a running pace in about fourteen and a half hours, and on a vegetable diet only.

"It is well known that the Japanese are physically a small people, yet they are capable of remarkable feats of strength and endurance, and as recent events have shown, they are full of courage and daring. A writer in the *British Medical Journal* says: 'The Japanese themselves attribute their high average of physical strength to a plain and frugal diet, and to a system of gymnastics, jiu-jitsu, which includes a knowledge of anatomy, and of the internal and external use of water. In 1889 a commission was appointed to consider whether by a meat diet or by other means the stature of the Japanese race could be raised; but the conclusion arrived at was that, seeing their feats of strength and powers of

endurance were superior to races much taller than themselves, the lowness of their stature did not matter. Concerning the diet, they are frugal to a degree, partaking of rice at every meal. Japanese troops have often made record marches on a diet consisting solely of a little rice. Vegetables and fruits are grown in abundance in Japan, and their value as a regular part of the dietary is realized with far more advantage than it is in this country. Indeed, a laborer is content to work a whole day on a dinner of tomatoes and cucumbers. Milk is scarce, because it does not pay to raise cows to produce milk alone, and the meat is not eaten.'"

The Biologic Natives of Hunza

THE PROGRESS of exploration and civilization have been so rapid in the last century that examples of tribes or nations living in a simple and wholly primitive way, and enjoying the great advantages of biologic or physiologic conditions of life, are coming to be more and more rarely met with. Major-General Sir Robert McCarrison, a great physiologist as well as a great surgeon of wide experience, gives in his book, "Studies in Deficiency Disease," an account of a remarkable group of people living in Northern India, which admirably illustrates the remarkable results attainable by a thoroughly biologic mode of life. We feel sure that GOOD HEALTH readers would be edified by the following interesting account of these remarkable primitives:

My own experience provides an example of a race, unsurpassed in perfection of physique and in freedom from disease in general, whose sole food consists to this day of grains, vegetables, and fruits, with a certain amount of milk and butter, and goat's milk only on feast days. I refer to the people of the state

of Hunza, situated in the extreme northernmost point of India. So limited is the land available for cultivation that they can keep little livestock other than goats, which browse on the hills, while the food supply is so restricted that the people, as a rule, do not keep dogs. They have, in addition to grains — wheat, barley and maize — an abundant crop of apricots. These they dry in the sun and use very largely in their food. Amongst these people the span of life is extraordinarily long; and such service as I was able to render them during some seven years spent in their midst was confined chiefly to the treatment of accidental lesions, the removal of senile cataract, plastic operations for granular eyelids, or the treatment of maladies wholly unconnected with food supply. Appendicitis, so common in Europe, was unknown. When the severe nature of the winter in that part of the Himalayas is considered, and the fact that their housing accommodations and conservancy arrangements are of the most primitive, it becomes obvious that the enforced restriction to the unsophisti-

cated foodstuffs of Nature is compatible with long life, continued vigor, and perfect physique.

Although no statistics are available in this country (Great Britain) as to the precise influence of malnutrition in contributing to the low standard of physique revealed during the later years of the war, there can be no doubt that the food factor is connected with it. In America during the years 1917-18 it was estimated that about thirty per cent of the school children were suffering from malnutrition. This condition was not limited to the poor. Chapin remarks with regard to it that "the malnutrition was due to a failure in the proper selection and preparation of food materials in addition to poverty."

With increasing knowledge of nutritional problems, it has become apparent that our dietetic habits need remodeling, and that education of the people as to what to eat and why they eat it is urgently necessary. It is clear that green vegetables, milk and eggs should form a far higher proportion of the food of the nation.

Why People Become Intoxicated

by Count Leo Tolstoy

II

NOT IN THE taste, not in the gratification, not in the distraction, not in the pleasure lies the cause of the universal diffusion of hashish, opium, wine, tobacco, but only in the necessity of concealing from oneself the indications of conscience.

One day I walked along the street, and passing by some drivers who were conversing, I heard one of them say to another, "Everybody knows a sober man feels conscience-stricken."

A sober man feels conscience-stricken at what does not so affect a drunken man. With these words was expressed the essential fundamental cause for which men have recourse to intoxicating substances. Men have recourse to them, either that they may have no stricken conscience after committing an act which is contrary to their conscience, or that they may in advance bring themselves to a state in which they can commit an act which is contrary to their conscience, but toward which they are drawn by human nature.

Nine-tenths of the crimes are committed in this manner,—"To brace myself I will take a drink."

Half the falls of women take place under the influence of

wine. Nearly all the visits to lewd houses are made in a drunken condition. Men know this property of wine to drown the voice of conscience, and consciously use it for this purpose.

Not only do men intoxicate themselves in order to drown their conscience,—knowing the action of wine, they, with intention of compelling other people to commit acts which are contrary to conscience, purposely get them intoxicated, organize the intoxication of men, in order to deprive them of their conscience. In a war soldiers are always made drunk when it becomes necessary to fight a hand-to-hand fight. All the French soldiers were at the stormings of Sevastopol made drunk.

Everybody knows of men who have become insensibly drunk in consequence of crimes which tormented their conscience. Everybody may observe that men who live immorally more than any others are prone to use intoxicating substances. Gangs of robbers and thieves, and prostitutes do not live without liquor.

All know and recognize the fact that the use of intoxicating substances is the consequence of bites of conscience, that in certain immoral professions intoxicating substances are used for the sake of drowning one's conscience. All know also and

recognize the fact that the use of intoxicating substances drowns the conscience, that a drunken man is capable of acts which he would not have the courage to think of in his sober state. All agree to this, but — strange to say — when in consequence of the use of intoxicating substances there do not appear such acts as murder, violence, and so forth; when intoxicating substances are not taken as the result of some terrible crimes, but by men of professions that are not considered by us to be criminal, and when these substances are not taken at once in a great quantity, but constantly in moderate quantities — it is for some reason assumed that the intoxicating substances no longer act upon the conscience, drowning it.

Thus it is assumed that the daily drinking by every well-to-do Russian of a glass of vodka before each meal and of a glass of wine after it, by a Frenchman of his absinthe, by the Englishman of his port and porter, by a German of his beer, by a well-to-do Chinaman the smoking of his moderate amount of opium, and the smoking of tobacco, is done only for pleasure and by no means affects men's consciences.

It is assumed that, if after this customary intoxication no

crime has been committed, no theft, no murder, but certain stupid and bad acts, these acts have come of themselves, and were not provoked by the intoxication. It is assumed that if no capital crime has been committed by these men, they have no reason to drown their consciences, and that the life led by the men who abandon themselves to constant intoxication is absolutely good, and would be just as good if the people did not become intoxicated. It is assumed that the constant use of intoxicating substances in no way obscures their consciences.

Although everybody knows by experience that the mood changes from the use of wine and tobacco; that what without a stimulus would make a person feel ashamed now no longer causes shame; that after each ever so small bite of conscience a man is attracted to some kind of intoxication; that under the influence of intoxicating substances it is hard to reflect upon one's life and condition, and that the constant, regular use

of intoxicating substances produces the same physiological effect as a single immoderate use of it — it seems to moderate drinkers and smokers that they do not at all use the intoxicating substances for the purpose of drowning their consciences, but only because they taste good and give pleasure.

But a man need but seriously and impassionately think of this, without excluding himself, in order to understand that, in the first place, if the use of intoxicating substances at one time in large quantities drowns men's consciences, the constant use of these substances must produce the same effect, because the intoxicating substances always act physiologically in the same way, always exciting and then dulling the activity of the brain, whether they be taken in large or in small doses; in the second place, that if the intoxicating substances have the property of drowning the conscience, they have this property at all times, both when under their influence

a murder, a theft, an act of violence is committed, and when under their influence a word is said which would not be said without them, and people think and feel as they have not thought or felt before; and, in the third place, that if the use of intoxicating substances is necessary for thieves, robbers, prostitutes, in order to drown their consciences, it is just as indispensable to people who busy themselves with professions which are condemned by their consciences, even though these professions may be considered lawful and honorable by other people.

In short, it is impossible to avoid seeing that the use of intoxicating substances in large and small quantities, periodically or constantly, in the higher or in the lower circles, is provoked by one and the same cause — the necessity of drowning the voice of conscience, in order that the discord between life and the demands of conscience may not be seen.

Better Homes and Public Health

THE GOVERNMENT is now spending many millions of dollars on housing projects. Better homes as a public health project were considered by Dr. C. E. A. Winslow, of Yale (*American Journal of Public Health*). Comparisons made in Liverpool, England, showed that improved housing was associated with materially lowered death rates from infant mortality, tuberculosis and all causes.

Some of the evils of slums are deficiency in quantity and quality of water supplies, insanitary toilets and overflowing cesspools, overcrowding, lack of light and air, cold and dampness, absence of screening against flies and mosquitoes, fire and accident hazards.

Public health cannot be measured solely by mortality statis-

tics. A state of undernutrition which permits survival may produce stunting of growth and lowering of vitality. An overheated atmosphere decreases efficiency and causes discomfort. Odors interfere with appetite. Poor illumination brings on mental depression. Overcrowded rooms promote immorality. An unattractive home drives children into the streets and increases juvenile delinquency. It may produce a sense of inferiority which profoundly influences personality.

England, Holland, Belgium, Germany, Austria, Denmark, Sweden, and Russia have all carried out extensive housing projects with government help. A survey in 1934 in sixty-four cities in this country showed that seventeen per cent of the

dwelling units were overcrowded, fourteen per cent lacked private indoor toilets, twenty per cent had neither bathtubs nor showers, five per cent were without running water.

It is estimated that the construction of 13,000,000 dwelling units is needed to bring our housing up to reasonable standards by 1945. One definite fact is that a considerable part of our population, perhaps twenty per cent, cannot earn enough money to pay for decent homes. Government aid is hence absolutely essential. In an English project where rents were charged to meet the entire cost of the housing, the health of the inmates was actually damaged because not enough money was left for proper feeding.—S.

Carbohydrates—Starches and Sugars

by Dr. John Harvey Kellogg

(Continued from April)

Levulose

LEVULOSE is the sugar of fruits, and is often called fruit sugar, although dextrose is as truly a fruit sugar as is levulose. In most fruits these two sugars are found in about equal amount. Levulose is formed from cane sugar by the process of digestion. It is converted in the body into dextrose before it can be utilized. Honey consists of about equal parts of levulose and dextrose.

Levulose has been shown to be better tolerated by some diabetics than is dextrose and other sugars and on that account is sometimes very useful in the treatment of cases of diabetes.

Manna

Manna, a sweet substance which from the most ancient times has been gathered from certain shrubs growing in the Sinai desert, owes its sweetness to *mannite*, a sweet substance but not a true sugar. Manna is still gathered from the same locality where the ancient Hebrews found it in their wanderings and may be obtained from any drug store. It is slightly laxative and on this account is used medicinally. Quite recently a sweet substance said to be manna has been occasionally found in considerable quantity on the foliage of the Douglas

fir tree in British Columbia. It forms on the leaves in drops the size of peas, and sometimes in larger masses.

Mannite differs from cane sugar in that it is not fermented by yeast. It is somewhat laxative and may be used without injury by diabetics, since it does not increase the sugar of the urine. It is found in the beet root and in the sweet juice of the ash tree.

A sugar known as inosite or American manna is obtained from the sugar pine. It exudes from the heart of the tree and collects on wounds which have been produced by fire, the axe or otherwise, forming irregular masses of a brittle, white substance having much the appearance of candy. It is sweet to the taste and is as well relished by many people as is maple sugar, but one's appetite for it is quickly satisfied. Chemical examination of this material, however, shows it to be quite different from the sugar of the cane and the maple tree. It does not ferment with yeast as does sugar, and though sweet in flavor is not really a sugar. Neither is it the true mannite which is found on the Douglas fir and on the shrubs of the Sinai desert. It is used as a medicine by the California Indians.

Lactose or Milk Sugar

Lactose or milk sugar is a form of sugar peculiar to animals. It is in this respect unique, being found only very rarely in the vegetable kingdom. It is of all sugars the most difficult of digestion and assimilation. It has the least tendency to ferment of any of the sugars, although it is readily fermentable by the milk-souring bacteria which are always found present in the intestines of a healthy infant within a few hours after birth.

Experiments have shown (von Noorden) that lactose is utilized only one-fourth as readily as is maltose, the sugar formed by the digestion of starch.

The value of lactose as a means of encouraging the growth of protective organisms in the intestine is due to the slowness with which it is utilized, permitting it to find its way into the large intestine where its presence is necessary to promote the growth of acid-forming bacteria.

The lactose of milk clings to the casein of the milk, from which it can be separated only by repeated washings. This fact contributes greatly to the success of the milk regimen — which floods the intestine with curds which carry milk sugar into the intestine and there feed

the friendly bacteria. Advantage is taken of this fact in reference to changing the intestinal flora. It is found that if a person takes nine or ten ounces of milk sugar in three portions, during the day, for a few days in succession, the stools quickly lose their putrid character and the protective organism known as the *bacillus acidophilus* makes its appearance, while putrefactive organisms disappear. Similar results follow the use of three pints of acidophilus buttermilk daily.

Dates vs. Cane Sugar

There is no doubt that the American people are suffering greatly from the excessive use of cane sugar. Cane sugar differs from the natural sugar found in dates in several important particulars. In the date the sugar is associated with other essential food constituents, especially protein, which is necessary for tissue building, iron, which is essential for the blood, lime, which is essential for the bones, and vitamins, another highly important food

constituent necessary for the maintenance of nutrition and to stimulate growth and development in the young; all these food essentials are found in the date but none are present in cane sugar. Consequently, when a person uses cane sugar freely he is certain to suffer from a deficiency of lime, iron and vitamins, as the result of which he is likely to be anemic and to suffer from muscular weakness and lack of tone, as well as from an unhealthy state of the bones and decay of the teeth.

Parsley and Other Green Vegetables Used by the Ancients

THE ANCIENTS recognized the value of the green leafy vegetables that we now know to be rich in vitamins, though they did not know what it was that gave them their value. From Sturtevant's *Notes on Edible Plants*, we learn that "Among the Greeks and Romans, parsley formed part of the festive garlands, and Pliny states that in his time there was not a salad or a sauce presented at table without it. The ancients supposed that its grateful smell absorbed the inebriating fumes of wine and by that means prevented intoxication. Parsley seems to be the *apium* of the ancient Romans, the *selinon* of Theophrastus, who, 322 B. C., describes two varieties: one with crowded, dense leaves, the other more open and broader leafage. Pliny, 79 A. D., mentions the cultivated form as having varieties with a thick leaf and a crisp leaf, evidently copying from Theophrastus. He adds, however, apparently from his own observation, that *apium* is in general esteem, for the sprays find use in large quantities in broths and give a peculiar palatability to condimental foods. In Achaea, it is

used, so he says, for the victor's crown in the Nemean games.

"A little later, Galen, 164 A. D., praises parsley as among the commonest of foods, sweet and grateful to the stomach, and says that some eat it with *smyrnium* mixed with the leaves of lettuce. Palladius, about 210 A. D., mentions the method of procuring the curled form from the common and says that old seed germinates more freely than fresh seed. (This is a peculiarity of parsley seed and is directly the opposite to that of celery seed.)

"Booth states that parsley was introduced into England in 1548 from Sardinia. In addition to its general use, in Cornwall where it is much esteemed, it is largely used in parsley pies.

"At the present time we have five forms; the common or plain-leaved, the celery-leaved or Neapolitan, the curled, the fern-leaved and the Hamburg, or turnip-rooted.

"Hamburg parsley is grown for its roots, which are used as are parsnips. It seems to have been used in Germany in 1542, or earlier, but its use was indicated as of Holland origin even

then in the name used, Dutch parsley. It did not reach England until long after. In 1726, Townsend, a seedsman, had heard that 'the people in Holland boil the roots of it and eat it as a good dish.' In 1778, it is said to be called Hamburg parsley and to be in esteem. In 1783, Bryant mentions its frequent occurrence in the London markets. It was in American gardens in 1806."

The cabbage was much used by the Greeks and Romans, who probably derived it from the Egyptians, by whom cabbage, leeks and other green stuffs had been used from prehistoric times. Hippocrates, the father of medicine, made large use of cabbage as a remedy in his medical practice. Cato ascribed to the use of cabbage the preservation of his family from the plague, which is quite possible, for laboratory experiments have shown that the juice of raw cabbage is inimitable to the growth of pernicious bacteria of all sorts.

The famed Adonis loved lettuce (*Medical Journal and Record*). Lettuce was used as a salad by both the Greeks and the Romans.

History of the Remedial Use of Water in Modern Times*

by Dr. John Harvey Kellogg

(Continued from April)

AMONG the earliest scientific observations respecting the effects of the bath as regards both the physiological and the therapeutic effects of water, must be noted the careful experiments conducted by Henry Wilson Lockette, of Virginia. These experiments were published by him in the year 1801 in "An Inaugural Dissertation on the Warm Bath, presented to the Trustees of the Medical Faculty of the University of Pennsylvania for the Degree of Doctor of Medicine." In this treatise, a copy of which the author is so fortunate as to have in his library, Dr. Lockette details with great perspicacity the effects upon the pulse and general functions, of baths of different duration at varying temperatures. Among the observations that he made, were the following:

1. That a foot bath at 110° F. increased the pulse from 76 to 92 beats a minute, the redness of the legs and the enlargement of the veins of the feet and legs and the slight but temporary pain in the head showing clearly the exciting effect of this treatment.

2. That a full bath at 107° F. raised the pulse from 72 to 114

beats, producing congestion of the veins, drowsiness, and profuse perspiration. The excitation continued for more than a quarter of an hour after the bath.

3. That a bath at 96° F. diminished the pulse from 79 to 64 beats in ten minutes, whereas an elevation of temperature to 100° raised the pulse to 80 beats, and a greater increase of temperature (to 105°) increased the pulse in fifteen minutes more to 92 beats. "The patient sweat freely and yawned after dressing, and was much debilitated, complaining of weakness in the legs," — a very good description of the depressing effects of the hot bath.

4. That a bath at 90° F. lowered the pulse, in five minutes, from 80 to 64 beats. An elevation of temperature to 100° raised the pulse in ten minutes to 73 beats; and raising the temperature to 105° in twenty minutes more raised the pulse to 118 beats, with difficulty of breathing and profuse perspiration.

He noticed, among other effects, that a bath in which the temperature was gradually raised to 110° raised the pulse from 83 to 153 beats, producing intolerable pain in the head,

partial delirium, confusion of thought, inability to speak, dimness of sight, vesical tenesmus, and "sensations which are commonly present in a violent state of fever." On leaving the bath, the experimenter nearly fainted, and sweat profusely for some time.

A bath at 95° F. for an hour lowered the pulse from 78 to 75 beats. Fifteen minutes after the bath the pulse rate was 68. The experimenter says, "I experienced a considerable degree of lassitude, with an inclination to sleep," — an excellent description of the effects of the neutral bath.

A bath at 92° lowered the pulse, in five minutes, from 84 to 77 beats. At the end of thirty minutes the pulse rate was 76.

As the result of his investigations, Dr. Lockette concluded:

1. That a temperature below 98° F. does not increase the frequency of the pulse, and may slightly lower it, and does not produce sweating.

2. That a temperature of 98° to 105° F. "accelerates the pulse and induces free perspiration, but produces no distressing symptoms."

3. That a temperature of 105° F. "is a powerful stimulant, and

*From *Rational Hydrotherapy*, by Dr. John Harvey Kellogg, Modern Medicine Publishing Company, Battle Creek, Michigan.

should never be advised or practiced in inflammatory diseases or states of fever or violently morbid action."

Dr. Lockette made similar experiments with the steam bath, which led him to conclude it to be a more convenient method of securing perspiration than the water bath. His brochure is concluded by a chapter relating to the medical uses of the warm bath, and among the most interesting observations upon the medical uses of water are found recommendations respecting its use for the relief of sick or nervous headache, which he remarks had previously been "very little attended to by physicians." He recommends the warm foot bath, fomentations to the head, and the daily cold bath, which measures, he affirms, on the authority of Dr. Dwight, have effected a cure in many cases.

During the middle decades of the present century hydropathy flourished to a considerable extent. Many institutions devoted to the carrying out of these measures were established in different parts of the United States, and scientific hydrotherapy was ably advocated by Dr. John Bell, of Philadelphia, whose work on "Baths" has, up to recent times, remained the most complete and able treatise on the subject in the English language.

When seventeen years of age, Priessnitz met with an accident whereby he received numerous bruises and other injuries, including the fracture of two of his ribs. Local physicians gave him no hope of recovery; but having been accustomed to use water in the treatment of the domestic animals for which he cared, it occurred to him to try the same remedy for himself. He covered the affected parts with cloths kept wet with cold water, and was in a short time completely cured. Hearing of

this remarkable cure without the use of drugs or the application of any of the ordinary salves or lotions, many wounded persons, and later people suffering from chronic diseases, came to Priessnitz for relief, and soon his whole time was occupied with their care. Priessnitz was not a quack, for he made no great pretensions. He did not claim special knowledge or skill. He made no pretensions to the possession of any secret method or process. His work was done frankly, honestly, and openly. He was a man of few words, of serious, dignified character, an enthusiastic student of Nature. He labored patiently and earnestly for the development of the great principles which he recognized. He commanded the respect of his countrymen, even of members of the profession. He was granted a diploma by the Austrian government after an official investigation of his work and methods. The French government sent the head of the medical department of the army to study his methods, and by this means hydrotherapy was introduced into the military service of France nearly a century ago. The governments of other countries did likewise. Thus the principles and methods developed by this Nature-taught physician were rapidly diffused.

The basis of the system of Priessnitz was perspiration, followed by cold applications. His methods were exceedingly crude and were administered with comparatively little discrimination, the natural result of his total lack of medical knowledge. However, his native tact and sagacity soon led him to recognize a difference in the ability of his patients to react to cold applications, and he accordingly made it a practice to observe in each case the effects of the first application, the readiness with which the patient yielded to the means adopted to

induce perspiration, and the promptness with which reaction took place on the application of cold water.

Priessnitz discovered little, perhaps, but he succeeded in calling general attention to the efficacy of various simple methods of applying water as a remedial agent which had previously been little appreciated. And he accomplished more than this. He aided to recovery a vast number of chronic invalids whose maladies were practically incurable by the measures in common use by the medical profession of that time; and though at first denounced and opposed by scientific physicians because of his empiricism, the more sagacious among them, after a time, became convinced of the genuineness of the cures effected, and many visited him for the purpose of studying his system, such as it was.

Priessnitz found nearly all the methods of employing water which entered into his system, in use among the peasantry of his country, by whom they were commonly employed at least as early as 1737, and probably even before that time. Priessnitz, however, was one of the first to organize the use of these various measures into a system, for which he deserves much credit. Crude and empirical though his system was, his success was sufficient to compel attention, and he commanded an extensive following.

The attention thus attracted led to a careful study of the physiological effects of water in its various modes of application, for the purpose of finding a scientific foundation for its therapeutic use. Among the first to undertake this study was Fleury, who published in 1852 the first extended scientific treatise upon hydrotherapy, under the title, "*Traité Pratique et Raisonné d'Hydrothérapie*."



FROM THE EDITOR'S PEN

Saving the Lives of Babies

THE INFANT mortality has declined more than fifty-one per cent since 1915 in the ten states which have been keeping records of such statistics, comprising about one-third of the population of the country. In 1915, there were 100 deaths under one year of age out of each 1,000 live births, or one in ten of all the babies born. Twenty years later, the figure was 48.8, or a little better than 1 in 20. In Rhode Island, the infant mortality dropped from 1 in 8 to 1 in 21, a saving of nearly 60 per cent; that is, only two-fifths as many babies die in Rhode Island during their first year of life at the present time as in 1915.

Birth Control Depopulating America

The chief factor in the decline has been the success in dealing with diarrheal disease, which was formerly the leading cause of death in infancy. There has also been excellent progress in controlling pneumonia and whooping cough. Prenatal care of mothers has likewise helped. The limit of these improvements has by no means been reached. New Zealand has a much lower mortality rate than the United States (40 per 1000) and even there further gains are likely.

Most of the 85,000 infants under one year of age who die annually in the United States succumb to diarrheal diseases, as pointed out by the Metropolitan Life Insurance Company, whose statistical reports are on a footing with those of the U. S. Government.

The better management of infant feeding is today saving the lives of 65,000 or 70,000 infants who would have died in 1918. Knowledge of the methods by which the quintuplets were

cured and kept free from bowel troubles would undoubtedly save the lives of an additional 50,000 or 60,000 babies every year. What these babies with diarrheal disease need is a change of the intestinal flora. Because of the refusal or inability of their mothers to nurse them, they have not been provided with the protective germ which Nature supplies to all nurslings to defend the alimentary canal against the parasitic germs which swarm in the air and which are the recognized cause of most intestinal troubles, the greatest menace to infantile life.

This important fact, discovered by Dr. Tissier, of the Pasteur Institute, in 1900, and by other bacteriologists soon after, should be made known to every mother. Contact with the mother's breast is the natural means by which the protective germs are implanted in the nursing infant. Breast milk supplies milk sugar, which feeds the protective germs and enables them to flourish so luxuriantly that they are able to drive out of the intestines all harmful and infective bacteria.

A few years ago it was discovered that these germs could be cultivated artificially in a milk prepared from soy beans. The quintuplets were cured and are kept free from the bowel trouble which menaced their lives when they were four months of age, by the use of this artificial culture, soy acidophilus milk, which was sent to them when the papers announced that they were suffering from this disorder. The glassful of soy acidophilus milk which each quintuplet takes every afternoon at four o'clock, keeps her and her sisters in fine condition physically, and free from bowel trouble.

Nearly every infant in the United States might be kept free from this chief cause of infant mortality by the same simple method. (The Battle Creek

Food Company will send a liberal sample of the culture to any mother whose infant is suffering from bowel trouble, on receipt of ten cents to cover postage. See announcement in the advertising columns of this number.)

Race Suicide

In commenting on the decline in infant mortality, the Statistical Bulletin of the Metropolitan Life Insurance Company points out that if the death rate of 1915 had prevailed in 1935, 61,000 babies would have died; instead there were only 30,000 deaths. But these figures are small in comparison with those representing the decline in the birth rate. This was 25.1 per 1,000 of population in 1915, as against 15.6 in 1935, a decrease of 38 per cent. This means that there were about 374,000 fewer births in 1935 than would have occurred if the 1915 birth rate had been maintained. In other words, for every baby saved by disease preventive methods, eleven were lost through decreased fertility.

Plenty of Standing Room and More

The *Bulletin* regards this decline in births as a sorrowful development. In 1927, Professor Edward Alsworth Ross, of the University of Wisconsin, published a book, "Standing Room Only," in which he pointed out the danger of overpopulation in this country. It then seemed that the horribly crowded conditions of China and India would be reached here. But that prospect no longer exists. The danger depicted in Professor Ross' book was purely imaginary, as shown by the fact easily verifiable by calculation, that for six families of five each to the acre, an area one hundred miles square would accommodate all the people of the United States. There are 3,000,000 square miles of arable land in the United

States, which would provide 300 such areas. Our 2,000,000,000 acres provide eight acres each for every man, woman and child in the United States — plenty of standing room for some time to come.

Spinach a Much Better Source of Vitamin A than Fish Oils—Cures Night Blindness

THE VERY marked superiority of spinach over halibut and cod-liver oils as a source of vitamin A was demonstrated by Doctors C. Friderichsen and C. Edmund, of Copenhagen, Denmark. Their tests were made with 106 children between the ages of two months and two years. They devised a delicate and ingenious method of discovering hemeralopia or night blindness in infants and for measuring its extent. It had previously been proved that lack of this vitamin will bring on this disease, in which the vision is abnormally poor in a dim light although there is nothing in the condition of the eye to explain this. They determined the faintest light to which a child reacts when its eyes are adapted to darkness. (*American Journal of Diseases of Children*). The well children who were nursed by their mothers wholly or in part were found to have proper vision. But some of those on a mixed diet or who suffered from disease, had varying degrees of night blindness. When vitamin A was given to them, their eyesight showed an improvement in from ten to fifteen minutes. Normality was reached in from twenty to thirty minutes. To accomplish this, a dose of 4,000 units of A in cod-liver oil, 5,700 units in halibut-liver oil, or 100 to 150 units in dried spinach, was needed.

This was not all. Not only were so much smaller doses of spinach vitamins required, but their effect lasted much longer. After the administration of fish

vitamins, the full influence lasted from three to six days, after which the vision deteriorated. But the effect of spinach was demonstrated after ten to fourteen days.

The giving of the vitamin to children who had not been receiving a sufficient amount, made a striking and almost instantaneous improvement in their psychic condition. Their indolent and passive manner was replaced by smiles and a lively reaction to the flashes of the light of the lamp.

Investigators in this country have found that many children and adults are suffering from night blindness due to deficiency of vitamin A. Many automobile accidents are probably due to this defect in vision.

Three - Fourths of World's Population Low Protein Feeders

THE HUMAN RACE in general has never really adopted flesh as a staple food. The Anglo-Saxons and a few savage tribes are about the only flesh-eating people. The people of other nations use meat only as a luxury or as an emergency diet. According to Mori, the Japanese peasant of the interior is almost an exclusive vegetarian. He eats fish once or twice a month and meat once or twice a year. Throughout the Island Empire, rice is largely used, together with buckwheat, barley, wheat and millet. Turnips and radishes, yams and sweet potatoes are used freely, also cucumbers, pumpkins and squashes. The soy bean is held in high esteem and used largely in the form of *miso*, a purée prepared from the bean and fermented; or *to-fu*, a sort of cheese; or *cho-yu*, which is prepared by mixing the pulverized beans with wheat flour, salt and water, and fermenting from one and a half to five years. The Chinese peasant lives on essentially the same diet, as do also the Siamese, the

Koreans, and most other Oriental peoples. Three-fourths of the world's population eat so little meat that it cannot be regarded as anything more than an incidental factor in their bill of fare.

Among primitive people, meat is often eaten for other reasons than the satisfaction of hunger. The Maori eats the flesh of a slaughtered enemy in order to become possessed of his courage and strength. The people of lower Nubia, in like manner, eat the fox with the idea that in so doing they may become possessed of his cunning.

That flesh food is not the natural diet of man is shown by the fact that it is seldom eaten in its raw state. Cookery seems to be more than a means of catering to the gustatory sense, for Laroche has shown that raw meats contain poisons to which some persons are susceptible and which are destroyed by heat. This is another significant fact showing that meat is not naturally designed for human food, for cookery is not a part of Nature's biologic scheme. Hence the fact that man is able to eat and digest cooked meat is no more evidence that he is naturally carnivorous or omnivorous than the fact that he can eat and digest cooked corn is evidence that he is to be classed with graminivorous animals, like the horse and the ass, which are eaters of raw grains.

The bill of fare that wise Nature provides for man in forest and meadow, orchard and garden, a rich and varied menu, comprises more than 600 edible fruits, 100 cereals, 200 nuts and 300 vegetables — roots, stems, buds, leaves and flowers — to say nothing of eggs, milk and various other dairy products. Fruits and nuts, many vegetables — young shoots, succulent roots and fresh green leaves — and all dairy products, are furnished by Nature ready for man's use.

A notable difference between the flesh of animals and vegetable foodstuffs consists in the fact that all flesh foods contain a considerable proportion of

waste and poisonous matters, which are the result of tissue work and which at the death of the animal are on their way to the liver, kidneys, colon and other excretory organs for elimination. In eating meat, one necessarily adds to the toxins produced by his own body those produced by the tissues of another animal, and thus imposes upon his kidneys a task that should have been performed by the kidneys of the slaughtered beast. Is this a wise procedure?

Lies about Whisky Stopped

THE FEDERAL authorities can do nothing to prevent manufacturers of patent medicines from making false claims for their products, except as they appear on the labels. But fortunately the law permits the regulation of advertising put forth by the whisky industry. Statements have freely been made not only that distilled spirits are harmless but that they are actually beneficial to health. W. S. Alexander, head of the Federal Alcohol Administration, called a conference of distillers, rectifiers, importers and wholesalers at Washington, and, according to the *New York Times*, "laid down the law to them."

In his statement Mr. Alexander said:

"Advertisements of this nature which have been observed have referred to the wholesomeness of the advertised products," to the absence of hang-overs on the morning following drinking, to relaxing and soothing effects on tired nerves, to improvements in appetite or digestion, to unaffected efficiency, and to many other similar effects.

"Some instances have even been noted in which the moderation theme has been used in such manner as to create the misleading impression that beneficial, or at least non-injurious effects would result from drinking. It is the administration's opinion that any advertisement which creates the impression that the

consumption of distilled spirits will contribute to the mental or physical well-being of the consumer, or that spirits can be taken even in moderate quantities without any detrimental effects, is prohibited by the requirements of Articles VI, Section 64 (a) (2) of Regulations No. 5."

The distillers were also warned against giving away merchandise in connection with whisky sales. In some instances where ten cases were bought, an extra one was "thrown in." Other articles such as cocktail shakers, fancy containers and the like, have been given away. Manufacturers have likewise been forbidden to disparage the goods of their rivals by implying that the consumption of these products is more harmful than that of the advertised brand.

Unfortunately the Federal authorities have no power to deal in a similar manner with the makers of cigarets, who blazon forth all sorts of lies to increase their sales—S.

Sylvester Graham's Diet Reform Movement

THE FOUNDER of the modern movement for dietetic reform, Sylvester Graham, was converted to the practice of flesh-abstaining in 1830 by Mr. Metcalfe, a clergyman living in Philadelphia, who came to America from England in 1817 with a company of forty-one to found a vegetarian colony. Dr. Wm. Alcott was converted to the movement at the same time. Graham soon became a most active propagandist. He wrote much, published a monthly, *Graham's Journal*, in 1838 and 1839, and lectured widely. In 1839 appeared his lectures on *The Science of Human Life*, an admirable treatise which is still worthy of study. Graham's most important contribution was his treatise on *Bread and Bread-Making*, which advocated the use of whole meal bread and gave rise to the name graham

bread, now familiar in every language throughout the civilized world. Graham maintained that the problem of longevity is to be solved by the prolongation of youthfulness. In this he agreed with Hufeland, Flourens, and other physiologists.

Graham's *Lectures* constituted by far the most rational and comprehensive treatise on the science of living that had appeared when it was published. In reply to the argument that the ape readily learns to eat flesh-food, Graham well remarks:

"But if this proves that animal to be *omnivorous*, then the horse, cow, sheep, and others are all omnivorous, for every one of them is easily trained to eat animal food. Horses have frequently been trained to eat animal food, and sheep have been so accustomed to it as to refuse grass. All carnivorous animals can be trained to a vegetable diet, and brought to subsist upon it, with less inconvenience and deterioration than herbivorous or frugivorous animals can be brought to live on animal food. Comparative anatomy proves that man is naturally a frugivorous animal, formed to subsist upon fruits, seeds and farinaceous vegetables."

The following statement, made by Graham nearly eighty years ago, has never been disputed:

"The peasantry of Norway, Sweden, Denmark, Germany, Turkey, Greece, Italy, Switzerland, France, Spain, England, Scotland, Ireland, a considerable portion of Russia and other parts of Europe subsist mainly on non-flesh foods. The peasantry of modern Greece (like those of the days of Pericles) subsist on coarse brown bread and fruits. The peasantry in many parts of Russia live on very coarse bread, with garlic and other vegetables; and like the same class in Greece, Italy, etc., they are obliged to be extremely frugal even in this kind of food. Yet they are (for the most part) healthy, vigorous, and active.

Many of the inhabitants of Germany live mainly on rye and barley, in the form of coarse bread. The potato is the principal food of the Irish peasantry, and few portions of the human family are more healthy, athletic, and active, when uncorrupted by intoxicating substances (and, it may be added, when under favorable political and social conditions). But alcohol, opium, etc. (equally with bad laws), have extended their blighting influence over the greater portion of the world, and nowhere do these scourges so cruelly afflict the self-devoted race as in the cottages of the poor; and when, by these evils and neglect of sanitation, etc., diseases are generated, sometimes epidemics, we are told that these things arise from their poor, meager, low *vegetable* diet. Wherever the various sorts of intoxicating substances are absent and a decent degree of cleanliness is observed, the vegetable diet is not thus calumniated.

"That portion of the peasantry of England and Scotland who subsist on their barley and oatmeal bread, porridge, potatoes, and other vegetables, with temperate, cleanly habits (and surroundings), are able to endure more fatigue and exposure than any other class of people in the same countries. *Three-fourths of the whole human family*, in all periods of time (excepting perhaps, in the primitive wholly predatory ages) have subsisted on non-flesh foods; and when their supplies have been abundant and their habits in other respects correct, they have been well nourished."

How a Well-Known Dramatist Became a Vegetarian

THE *Vegetarian News* (England) states that George Arliss, the dramatist, is not only a consistent vegetarian but is an enthusiastic advocate of the bloodless regimen. According to the *News*, Mr. Arliss, whose wife is also a vegetarian, "gave up eating meat as a con-

sequence of seeing the misery of animals on large ranches and their sufferings in transportation." The study of the subject convinced him that there is no valid argument against the vegetarian diet since we can live just as well and enjoy equally as good health and vigor without the use of meat as with it." He has, in fact, become convinced that the avoidance of meat is conducive to superior health, both mental and physical.

Mr. Arliss seems to regard the whole livestock business, both the raising and the killing of animals, as iniquitous, and states that he and his wife "decided that if the production of meat entails so much suffering to these gentle creatures, we at least, would not be party to the crime," arguing that even if flesh meats were entirely wholesome foods, there would still be no excuse for the slaughter of animals merely to supply us with a luxury, since we can obtain an abundance of wholesome nutrients without the sacrifice of life.

Mussolini Keeps Fit by Biologic Living

"OUT OF MY organism I have made an engine constantly supervised and controlled which runs with absolute regularity." Thus Mussolini describes how he takes care of his body. Whatever one may think of his political ideas, he is a man of tremendous energy and large achievement. All the important business of the country, civil and military, passes through his hands. Unlike Hitler, he does not have a multitude of spokesmen to represent him or officials to carry on weighty affairs. He works twelve to fourteen hours a day and keeps in fine trim.

Webb Miller, of the United Press, had a long interview with El Duce about his health habits. Mussolini declared that he was almost exclusively a vegetarian. He considers alcohol damaging to the health of individuals and to collective health. He never drinks distilled liquors but sometimes takes a little wine at of-

ficial dinners. He has not smoked since the World War. He eats only simple dishes such as the peasants prefer and much fruit, and never touches tea or coffee.

From thirty to forty-five minutes are devoted daily to exercise, a variety of sports being enjoyed. He likes swimming best in summer, skiing in winter and horseback riding every day. He takes walks and fences and is familiar with such sports as bicycling, motorcycling, motoring and flying.

Whatever has happened in the day, on retiring, he falls to sleep at once. Going to bed regularly at eleven, he arises at seven. He takes no naps during the day. His audiences begin at eight o'clock and last until one p. m. They are resumed from three to eight p. m. He finds time to read about seventy books a year in French, German and English. The volumes are chiefly historical or political. He visits the opera occasionally. His work is very orderly and methodical. Mussolini has not been ill since 1925. He is nearing fifty-five years of age.

Many men say they are too busy to take exercise or to care for their health. Yet none of these have anything like the burden of responsibility which rests on the shoulders of the Italian leader. It is notable likewise that Hitler is similarly solicitous about keeping his body in good trim. He eats no meat, does not smoke or drink alcoholic beverages of any sort.—S.

A Stalwart Vegetarian

ACCORDING to the *Vegetarian Messenger and Health Review*, Horatio R. Goodwin, of Manchester, England, is eighty years old but can still ride ninety miles in one day on his bicycle. In 1885, he rode 2,054 miles in nineteen consecutive days, an average of 108 miles per day. His explanation of his vitality is that he does not use alcohol or tobacco and for thirty years has been a vegetarian.

A DIGEST OF HEALTH PROGRESS

House Dust and Hay Fever

POLLENS are responsible for a large amount of hay fever. Many cases begin at a definite time each year when the offending substances are shed by the plants or trees producing them. But house dust may also be a causative agent. Several investigators have tested large numbers of persons and found from thirty-three to forty-seven per cent of them reacting positively to house dust. This is commonly made up of many allergens—feathers, orris root, pollens, cat hair, rabbit hair, wool, horse hair, cotton kapok (silk floss), etc.

One peculiar fact is that bedding dust seems to have characteristics different from the substance of which the bedding is made. Thus there are people who react to the dust of their own feather pillows and mattresses yet fail to react to kapok, horse hair, etc., apart from their dust. Some light on this situation was shed by Cohen and associates through experiments with cotton linters. They concluded that the reacting substance in house dust was a degenerative product developed during the aging process of the linters. Cohen obtained relief in nineteen cases of asthma by discarding the offending mattress and substituting a new one.

Adams (*Journal of Pediatrics*) found that the removal of a hair or kapok mattress or feather pillow often brought relief from allergic symptoms. But he learned that twenty-seven per cent of a group of children were sensitive to kapok. Hence the practice of giving allergic subjects kapok mattresses and pillows instead of hair and feathers, may be a mistake in some instances. Pratt (*Journal of Allergy*) studied seventy-one children between the ages of one and twelve years who had asthma all the year round, and

found seventy-nine per cent of them sensitive to house dust extract.

Kapok is also known as Java cotton and is the mass of silky fibers investing the seeds of the silk-cotton tree. It is grown in Ceylon and other eastern countries, and in the West Indies. Large quantities are imported into the United States. Being very brittle it tends to break down and form a fine dust. Cotton, hair and feathers may also give off fine particles which may cause asthma.

As a protection against dust, sleeping and other rooms should be thoroughly washed and cleaned and be dusted daily. Heavy draperies, rugs and excess furniture should be removed. Furnace pipes leading into rooms should be sealed off. Floors should be waxed or oiled and the vacuum cleaner be used every day.

Slender Babies Need More Food

FEEDING OF INFANTS up to three months of age was tested on a comprehensive scale by Dr. I. Newton Kugelmass, director of the Heckscher Institute for Child Health, New York (*New England Journal of Medicine*). His subjects were three hundred thirty-seven normal babies, with fifty-five breast-fed controls. In all cases the effort was made to have the baby nurse, and weaning was done only for some good reason.

The test children were divided into nearly equal groups. One received whole milk, another boiled, half-strength milk, the third evaporated milk one to two solution, the fourth powdered milk, one tablespoonful to two ounces of water, and the fifth a powdered lactic acid milk formula, one tablespoonful to two ounces of water. In all cases there was given ten per cent of added carbohydrate, with orange juice and cod-liver oil.

About one infant in five because of allergy or some other factor could not endure the routine feeding and required an individual formula. They received variously breast, goat's, evaporated, powdered and vegetable milk.

In general more was consumed of the processed than the fresh milk, the maximum being on individualized formulas. Tall, thin babies needed about seventy calories per pound of body weight and tolerated concentrated milk mixtures. The short, stout babies required about fifty-five calories per pound of body weight and tolerated diluted milk mixtures better.

Maximum gains in weight were observed on individualized feedings and the minimum on diluted milk formulas. Infants on breast and processed milk feedings gained more rapidly than those on fresh milk mixtures. Large lateral infants weighing eight pounds at birth made more satisfactory gains on twenty ounces of a formula per twenty-four hours than did long, thin infants with a birth weight of seven pounds, on an intake of twenty-five ounces.

Alkaline Medication a Mistake

DRUGS FOR alkalizing the body fluids are advertised extensively on bill boards, in periodicals and over the radio. Their sale must be enormous to meet this expense, yet the highest medical authorities are agreed that this medication is not called for. It may do actual injury. The condition known as acidosis exists sometimes in real illness but is not nearly so common as the manufacturers of patent medicines would have the public believe.

The editor of the *Medical Record* discusses this subject in an effort to expose what is really

a gigantic swindle. Suave advertising names malaise, lassitude, muscle aches, high blood pressure, sour stomach, heartburn, belching, acid sweat, sour disposition, and so on, as symptoms of acidosis. People might have these complaints from various causes, and many are persuaded to buy milk of magnesia and other alkaline preparations which do them harm rather than good.

Professor H. C. Sherman, of Columbia, Professor Yandell Henderson, of Yale, and other authorities, have shown the falsity of this practice. The body has a marvelous system for maintaining its normal reaction or hydrogen ion concentration. If undue amounts of acids are taken in, the tissues take care of them if the amount is not too great. Excessive administration of alkalies may ruin the kidneys and produce disturbances more alarming than those caused by acidity.

Stomach acidity varies greatly in normal people. It has far less relation to diet than to nervous and fatigue states. Daily administration of thirty grams, or one ounce, of sodium citrate before breakfast, is about the smallest amount of alkali which will produce a shift in the acid-base equilibrium of the blood. To swallow such an amount of chemicals is decidedly harmful.

Alkalosis may be produced by the free use of alkalies. Either acidosis or alkalosis is a problem for a skilled physician and is not to be met by self-medication or dosing with patent nostrums.

The Prevention of Goiter

SINCE 1924, the Michigan State Department of Health has carried on a campaign against goiter. It has recommended that all table salt used in Michigan contain one part of potassium iodid per 5,000. The salt manufacturers of the state have complied with this. A goiter survey was made in 1924 and another in 1935. In this

time there has been a noticeable decrease in the number of goiter operations, although the number of operations of all sorts has steadily grown.

Dr. O. P. Kimball describes the results of these inquiries in the *Journal of the American Medical Association*. Of over 60,000 school children examined in 1935, only 2.88 per cent of those using the iodized salt regularly had any sign of goiter; in those who made no use of iodized salt, the percentage was 19.29. In some regions the percentage of goiter among non-users was much larger, reaching 43.14 in a high school in Houghton county.

A survey in Cleveland showed 7.7 per cent of the disease among users and 30.7 per cent among non-users of the prepared salt. In Midland County, Michigan, a special drive was made and about 63 per cent of the families there now use the iodized salt. Goiter has there dropped to 1.9 per cent among users.

Goiter is not merely a physical defect. It is a disease which affects the whole body. The activity of this gland is associated with mental and physical development and its deterioration through disease or congenital deficiency may be associated with mental defects of a grave character.

Curative Value of Music

IN HIS BOOK on "Music in Institutions," published under the auspices of the Russell Sage Foundation, Willem Van De Wall treats at length of melanothrapy, which is the use of music for healing purposes.

He is director of the Committee for the Study of Music in Institutions and a lecturer on music at Columbia University. He has worked in institutions for orphans, for old people, for the physically infirm, for the sick, the convalescent, the mentally deficient and the mentally ill.

Music, he believes, is essential in welfare institutions as part of treatment and education, as well

as recreation. There is in it a distinct social and psychological value if scientifically prescribed. It influences physiological reaction, increasing metabolism, altering muscular energy and perspiration, etc. There is advantage in the attention and the responses to music. Sensory-motor reactions can be utilized. The mental responses are definite and varied. But this form of therapy must be used judiciously to secure the best results.

Eyestrain Due to Poor Lighting

A PLEA FOR better care of the eyes is made by C. E. Ferree and G. Rand in the *Archives of Ophthalmology*. They believe that at present the care and treatment of the organ is too narrowly dependent on surgery and the use of lenses and prisms. Improper conditions of work are responsible for much trouble with the sight. The eye is always under a reflex incentive to clear up vision. Artificial lighting, with its unnatural and unfavorable conditions for clear vision, has come late in the history of the race and the eye has not developed any reactions or adjustments to meet the conditions imposed.

The effort of the eye to clear up vision by ineffectual maladjustments is the cause of eyestrain and ocular discomfort. A wide variation is found in the amount of light needed and preferred by different persons for doing the same type of work, whether they are of the same or different age groups. The range for best comfort is narrow for each individual. In a large publishing house where fifty or more proof readers were working in one room, they were seated in accordance with their individual requirements. No change in the lighting was necessary to secure better results.

Glare is another problem. It is of two kinds. Simple glare is too high brightness; veiling glare is an obscuring of the image on the retina produced either by an overlay of scattered light or by light reflected from

the work surface which is not focused. Simple glare may cause discomfort or actual pain. Veiling glare brings on eye-strain. Certain eye diseases increase susceptibility to glare. The maximum brightness of lighting fixtures should be near the level of the eyes of the worker, with an even and gradual decrease upward and downward.

Manufacturers of lighting equipment say there is no great public demand for better lighting. Messrs. Ferree and Rand urge that eye specialists educate their patients to a realization of what proper lighting equipment means to them.

Food Minerals Aid Bowel Action

CALCIUM is necessary for the growth of the bones and teeth of children. Lack of it and of potassium leads to intestinal stasis. Demonstration of this was given by experiments conducted by Dr. Elizabeth Chant Robertson, of the University of Toronto, both on rats and children. She fed a group of rats on a diet which was complete save for deficiency in minerals, using controls which received food adequate in quality. After four weeks some animals were killed. Those which had received few minerals contained much more fecal matter than the others.

In further tests carmin was fed to both classes. The rats on a proper diet excreted carmin from three to seven days; the others did so from twelve to twenty-one days. Similar results were obtained by feeding barium. When calcium and potassium were added to the deficient diets, the animals became normal again.

The children used as subjects were convalescents in the hospital between the ages of seven and twelve. Fourteen out of nineteen showed constipation when calcium and potassium were greatly reduced in their food. With proper feeding, barium passed through children in from two to four days. Six of

twelve children on restricted mineral intake took from six to twenty-eight days to get rid of the barium. Bowel activity was restored when the two minerals were added to the diet. Dr. Robertson's findings are published in the *American Journal of Diseases of Children*.

Skin Outbreaks from Colored Oranges

THE PRACTICE of coloring citrus fruits by means of dyestuffs, anilin and other substances to give a fully-ripened appearance has come into vogue in the last two or three years. In addition, a large number of chemicals have been used to ripen artificially and preserve fruits for distant markets. These include ethylene gas, kerosene, paraffin, soap, wax and borax. The fruit is also washed in various fungicidal solutions, the formulas for which are usually kept secret. Trees are sometimes sprayed with insecticides or may be covered with a tent into which hydrocyanic gas is pumped.

The federal Food and Drugs Act provides that a product shall be considered adulterated if it is stained or colored so that damage or inferiority is concealed. Notice has been given that the government intends to forbid the marketing of oranges picked before they have attained their best quality and then colored.

In California an oil spray is used on the orange trees. Sulphur is also dusted on them. The fruit is all washed in a good kind of soap and then rinsed and dried before packing. Drs. Eugene F. Traub, Richard E. Gordon and Laird S. Van Dyke report in the *Journal of the American Medical Association* two cases of skin trouble due to contact with colored oranges. Both handled this fruit without ill effects until about two and a half years ago, when the use of dyes was begun. One was a fruit and vegetable handler; he had a severe eruption covering hands, face and neck. The other, a cook, was affected only on the

hands. The first man had a flareup on his skin when he went into a fruit market, even if he touched nothing.

The doctors were informed that ninety per cent of the Florida oranges on the New York market are colored. The federal authorities permit the use of a dye known as Yellow O B and a combination of two dyes similar to sudan I and sudan II. California oranges are declared to be uncolored yet some persons were found to be sensitive to skin tests with the outside rind of these. Whatever substances are used, they do not penetrate the rind. So there is no possible danger from eating the fruit. It is declared that hypersensitivity to the dyes may be acquired by constant and repeated exposure. Thus another class of substances is added to the long list of those which cause allergic reactions to certain individuals.

Conquest of Rickets

GROUPS of pre-school children examined at child welfare stations in Chicago every year have recently shown no case of severe rickets, while the milder types have noticeably declined. Dr. Fred O. Tonney, speaking at a conference on irradiation held by the Wisconsin Alumni Research Foundation, said that this was coincident with an enlarged use of vitamin D milk. The consumption of this in Chicago both in the natural and evaporated forms now amounts to sixteen per cent of the total milk sales (*Science News Letter*).

Dr. Tonney thought that the prevention of this disease should be the problem and responsibility of the public health officer because the great mass of children do not have medical attention unless seriously ill. The experience in Chicago was not definitely conclusive since it was on so small a scale and covered so short a period. But it did justify the hope that rickets could be prevented, and warranted the more extensive use of irradiated milk.

Avoid the Use of Duck's Eggs

ALL EGGS are strongly open to suspicion. When hens are infected with white diarrhea, eggs always contain the germs which produce colitis (*Tissier*). Eggs laid by sick hens should never be used, of course. Eggs usually become infected before they are laid. This is the chief reason for their poor keeping qualities. Germs also penetrate the shell, and thus set up putrefaction. Duck's eggs are more liable to infection than hen's eggs.

The eggs of certain varieties of ducks, particularly the Kaki-Campbell, are especially harmful. Some German authorities pronounce duck's eggs really dangerous, and advise against their use as human food.

The International Medical Digest reports that in 1933 there were three outbreaks of poisoning by the use of duck's eggs in the Rhineland industrial region.

A New Remedy for Foot Troubles

FOOT troubles affect many people and often cause great suffering. Dr. Dudley J. Morton, of the College of Physicians and Surgeons, Columbia University, declares (*Science News Letter*) that there are three main causes of them. These are civilization, overuse and improper weight distribution. The common types of arch and foot troubles are essentially city ailments. Hard floors, jobs which require long hours of standing, economic pressure which keeps the individual going when signs of foot trouble have appeared—these are serious factors to people with imperfectly designed feet.

In the World War, soldiers with poor feet were assigned to tasks which took this disability into consideration. Workers should also choose their jobs with regard to their foot conditions. In the foot there are five slender bones, called meta-

tarsals, which extend from the middle of the instep to the base of the toes. The first one, going to the great toe, is large and strong, and carries twice as much weight as any of the others. In foot troubles the weight distribution is changed because the ligaments of the first metatarsal are lax or the bone itself is too short.

Undue weight is thus put on the second bone and the workings of the foot are disorganized. In consequence there are disorders of the main arch along the inner border of the foot. When this condition exists, the second is invariably longer than the first. Commonly there is also a callus on the sole, just behind the second and third toes. Remedial measures include strapping, arch supports, rest periods and special exercises. Dr. Morton has devised a method to correct disordered weight distribution. It is an extension on a light insole that forms a platform under the first metatarsal bone. It raises the supporting surface of the ground to a level that makes the bone perform its normal duties.

The results of ten years of inquiry into foot troubles appear in the book, *The Human Foot* (Columbia University Press).

Underwater Treatment

IN WATER the body is lighter because of the law of displacement. Therefore only from one-twelfth to one-twentieth of the usual power is required for motion, and movements are made more easily and with less pain. On this principle depends the widening use of underwater exercise. *Surgery, Gynecology and Obstetrics* prints abstracts of articles by two German authorities on massage and exercise in a bath or pool. Dr. P. Haertl believes that regeneration of destroyed cells is possible by means of baths. He draws this conclusion from the good results obtained from motion therapy in infantile paralysis. The baths themselves open the

pores, with consequent improvement of the circulation and a deep action on the muscles, tendons and joints. An increase in circulation has a curative effect on inflammation.

Underwater gymnastics are first carried on with the aid of trained assistants but the patient is encouraged to perform them himself. Not only are the muscles strengthened but the thermochemical action exerts a favorable action on the affected nerves.

Dr. W. Wendel has advocated underwater massage and gymnastics for twenty-five years. He first employed this therapy to treat mechanical disturbances of articular movements following wounds and inflammations. He also used it in hysteria and in paralysis due to infantile paralysis. Muscle activity and favorable conditions for nourishment of the muscle, stimulate the formation of new muscle fibers. Underwater treatment is productive of these results. It may be applied in rheumatic inflammations, gouty conditions, arthroses due to wear and tear and all sorts of nervous diseases ranging from neuralgia to neuroses. Obese persons can also use this therapy.

Moulds and Yeasts in the Throat

MANKIND has other invisible enemies than bacteria. They are the higher vegetable organisms, yeasts and moulds. Dr. D. Macfarlan (*Journal of Laryngology and Otology*) is convinced by his experience that these may be responsible for certain throat and mouth lesions, often in conjunction with similar infections in other parts of the body. He has observed two cases of typical fungous disease of the toes which resisted all treatment until the tonsils were removed. When a yeast or fungus is the infecting agent in an illness, there is no leucocytosis or fever, which is characteristic of bacterial disease, and abscess formation is rare, though pain and swelling may be present.

Aspirin Causes Scurvy and Heart Disease

FIFTY YEARS AGO, it was a common practice among ordinary physicians when they were unable to make an exact diagnosis, to give the patient what they called a "shot-gun prescription," which consisted of a variety of remedies, some one of which it was hoped would hit the mark and benefit the patient. Generally, of course, such prescriptions did more harm than good. Empirical remedies, that is, those that are supposed to cure in some magic way, which no one pretends to understand, often do a vast deal of harm. For example, dinitrophenol, a drug of this sort, exploited for the cure of obesity a few years ago, was responsible for many cases of blindness due to cataract.

Another drug, which is a combination of acetic and salicylic acid, commonly known as aspirin, was shown by many authorities to be responsible for great injury by driving out of the body vitamin C, the scurvy-preventing vitamin, thus giving rise to incipient symptoms of scurvy, which are manifested as soreness of the joints and the bursting of capillary blood vessels. Symptoms of scurvy have been observed in numerous cases in which remedies of this class have been administered for rheumatism.

The great claims made for this drug as a harmless remedy and the widespread advertising, have made it so popular that it has come to be regarded as almost a cure-all for such ailments as colds, neuralgia, headache, etc.

Doctor H. I. Temple, in a recent article in the *Ohio State Medical Journal*, suggests that the common use of aspirin may be one of the causes of the great increase in death from heart disease, since it is a coal tar product, and known to be an active heart depressant.

It is known that the use of aspirin makes the heart muscles weak and flabby, and it is

charged that it may even cause leakage of the heart valves.

People who make free use of aspirin may become sensitized to it to such a degree that death may be caused by a dose ordinarily considered harmless.

Drs. Louis E. Prickman and Harold F. Buchstein, of the Mayo Clinic, in an article in the *Journal of the American Medical Association*, pointed out that urticaria, or nettle rash, a swelling of the nasal mucous membrane, purpura, and abdominal pains, may be due to this cause. The symptoms mentioned may appear within ten minutes after aspirin has been taken, or may be deferred for two hours.

Persons with asthma and those who have a hereditary predisposition to allergy, are most likely to be sensitized to aspirin. In some cases, the use of aspirin seems to be the cause of asthma. It was found dangerous to test persons for aspirin sensitiveness by administering small doses, as is sometimes done with other drugs. In one case, the giving of so small an amount as one-tenth of a grain of aspirin by hypodermic injection caused the patient great suffering for several days. Death has occurred in several cases when aspirin has been administered for relief of asthma. Evidently, aspirin is a drug which may wisely be let alone.

X-ray Cures Deafness

THE WIDE usefulness of the X-ray includes the relieving of certain cases of ear troubles. Dr. Frederick W. O'Brien in *Radiology* tells of the treatment of 140 patients between the years 1929 and 1935, who were suffering from chronic catarrhal deafness. Cases of suppurative middle ear disease, nerve deafness and otosclerosis were excluded. The only cases treated were those in which all the customary procedures had failed. Of the group, 73 were improved as to hearing and tinnitus (ringing in the ears), 65 were unchanged and two became worse.

Usually nine treatments were given, at weekly intervals. Of twenty cases of tinnitus, eighteen were cured.

Jarvis found that the best response to the roentgen rays was made by persons who were subject to frequent colds with more or less constant catarrhal discharge of the throat and frequent intervals of stuffiness in the ears, and an accompanying impairment of hearing. Richardson treated 600 mixed cases, with improvement ranging from a slight degree to complete cure in sixty per cent. The ringing in the ears was nearly always quickly relieved.

Mental Disorder from Bromides

THIS MEDICATION is described as a possible two-edged sword by Drs. Piero Frugoni and M. N. Walsh, of the Mayo Clinic. It may cause mental disease, cause a long illness, and even lead to pronounced insanity.

The danger of bromide poisoning is increased in states of nutrition and conditions in which the stores of chlorid may be depleted. The symptoms are often mistakenly attributed to disease. There is usually drowsiness with slowing of movement and speech. Constipation and lack of appetite generally occur. If the bromide is continued, insomnia, irritable excitement and hallucinations may be induced.

One patient at the Mayo Clinic had such tremor of the hands that he could not feed himself. He could not walk without staggering. As is often the fact he did not know what sort of medicine he had been taking. He was dismissed from the hospital in five days after the drug was discontinued, but in severe cases six weeks may pass before the patient becomes mentally clear.

It might be added that hydrotherapy and other physical measures may be used with great success as sedatives; these carry no possibility of poisoning.

Healthful Recipes

CREAM OF VEGETABLE SOUP

1 large potato ½ cup diced
1 cup diced turnips
carrots 3 cups milk
½ cup diced celery 1 cup cream
1 tsp. salt

Steam the vegetables and when tender put through a colander. Add the hot milk and cream. Reheat and serve with toast squares.

SPAGHETTI LOAF

1 pkg. spaghetti ½ tsp. salt
1 cup nut meats ¾ cup milk
2 eggs ½ cup buttered
2 tbsps. minced bread crumbs
parsley 1 cup diced carrots
1 cup cottage 2 tbsps. onion
cheese chopped fine

Boil the spaghetti until done, put in a colander and dash cold water over it. Peel the carrots, dice and cook until tender; drain. Mix the spaghetti, carrots, onions, parsley, salt, cottage cheese, eggs, nut meats and milk. Put into a well-buttered baking dish, cover the top with buttered bread crumbs, and bake 45 minutes in a moderate oven.

ASPARAGUS SPANISH STYLE

2 tbsps. butter 1 tbsp. chopped
1 small onion pimento
1 sweet green 1 tbsp. chopped
pepper parsley
1½ cups tomato 3 tbsps. flour
juice Asparagus
Toast Salt

Select tender fresh asparagus; wash well. Toast bread and cut in triangles. Place four or five short asparagus tips on the buttered toast and over all pour a sauce made by chopping the onion, pepper, parsley and pimento. Melt the butter, add the chopped vegetables and simmer five minutes. Add the flour, mix well and slowly add the tomato juice, stirring constantly until thickened. Steam and pour over the asparagus and toast.

STUFFED ONIONS

½ cup chopped 6 medium-sized
onions onions
Salt ½ cup mushrooms
Butter ½ cup bread
 crumbs

Peel and wash the onions and steam until tender. Remove centers, turn upside down to drain. Make a filling of the chopped, cooked onions, chopped mushrooms, and the bread crumbs seasoned and moistened with melted butter. Fill the onion cups. Sprinkle with the bread crumbs and bake in a buttered pan until brown.

SPINACH AND POTATO CROQUETTES

2 cups hot mashed ½ cup chopped
potatoes spinach
2 tbsps. butter 1 egg
2 egg yolks Bread crumbs
 Salt

Wash the spinach free from grit. Cook until tender and chop fine. Mix the mashed potatoes and the spinach; add the butter and the slightly beaten egg yolks. Salt to taste. Form into croquettes, roll in fine bread crumbs, then dip into the beaten egg and crumbs again. Place in a well-buttered baking dish and bake until nicely browned. Serve with hot tomato sauce.

SCALLOPED BROCCOLI

1 onion 1 cup bread
1 pint tomatoes crumbs
6 stalks broccoli 2 tbsps. butter

Wash broccoli free from grit, cut off the heads and dice the stalks. Steam until tender. Grate the onion and mix with the tomatoes. Butter a baking dish and place a layer of broccoli on the bottom, then a layer of tomatoes and onion, a layer of crumbs dotted with butter. Continue in layers until the materials are used, placing crumbs and butter on the top. Bake until nicely browned.

ASPARAGUS AND TOMATO SALAD

½ pound fresh or 3 tomatoes
canned as- 1 cucumber
paragus Radishes
 Mayonnaise

Select medium-sized tomatoes. Wash and cut off the stems. Cut into eight sections. Wash the asparagus free from grit and cut off the tough ends. Arrange on lettuce leaves on a salad plate alternately with tomato and sliced cucumber. Drop a teaspoonful of mayonnaise in the center and garnish with a radish rose.

APPLE SNOW PUDDING

1 cup bread 2 cups apple
crumbs sauce
½ cup raisins 1 egg white
Butter Flavoring

Select tart apple, wash and core, leaving on the red peel. Cook and sweeten to taste, then put through a colander. Whip the egg white until light and beat into the apple sauce, with the flavoring. Into a pudding dish or pan place a layer of the apple sauce, and a layer of bread crumbs, buttered. Sprinkle a few well-washed raisins over the bread crumb layer. Repeat until three layers are formed. Set in ice box until ready to serve.

DATE ROLL

½ pound dates ½ pound pecans
1 cup orange juice 12 graham
½ pound marsh- crackers
mallows ½ cup milk

Cut the dates, nuts and marshmallows into fine pieces. Roll nine crackers very fine. Mix with the dates, nuts and marshmallows. Crush the three remaining crackers and spread on oiled paper. Spread the date mixture on top. Roll like jelly roll and let stand in the refrigerator over night. Slice and serve with whipped cream if desired.

THE HEALTH QUESTION BOX

Chemical Laxatives — Lactic Acid, Etc.

J. E. M., Illinois, asks: 1. Are the chemical laxative properties of rhubarb and cranberries irritating or habit forming?

2. In selecting a diet for constipation, which is the most important, the mechanical or the chemical stimulating qualities of the food?

3. In observing an antitoxic or meatless diet and the daily use of Lacto-Dextrin, is it possible to restore the normal intestinal flora in the absence of an implantation?

4. How is the lactic acid as purchased at the drug store produced and is a daily dose of 50 drops as a morning antiseptic harmful?

5. What vegetable or combination of vegetables which grow above or below the ground and when dehydrated will contain all of the sixteen mineral elements?

6. Does sea kelp contain all the mineral elements in biological proportions?

7. About two years ago, I used a gargle which contained formaldehyde and after four months developed convulsions. I thereupon discontinued the gargle and was troubled no more. In about six months later, I started the use of bottled milk and the convulsions recurred. Is it possible that they use this poison to preserve milk?

8. Does the red coloring applied to meats contain formaldehyde?

Answer.—1. The oxalic acid of rhubarb leaves is not laxative. The laxative principle of rhubarb is found in the root and not in the leaves. The cranberry contains in addition to

citric acid a certain proportion of benzoic acid. This is not laxative and not habit forming. The irritant poison found in rhubarb root, which is also found in many other vegetable laxatives, is habit forming, as are all chemical laxatives, for the reason that their effects are produced by irritating the affected parts and not by energizing them. The fact makes them habit forming because they aggravate the disease instead of curing it. Their use creates a necessity of the continued use of the same or a stronger irritant.

2. Chemical stimulation or irritation of the bowel is never required. Physiologic stimulation is the only sort that may be safely used. The physiologic agents which promote bowel activity are (1) bulkage which encourages activity by giving the bowel something to do; (2) vitamins which energize the bowel and so increase its working power; (3) emollients which lubricate the intestinal canal and so facilitate the movement of residues along the via vitae to the exit.

3. When constipation has existed for a considerable period of time, the bowel becomes crippled by overdistention, the formation of pouches, adhesions and the development of spastic contractions and abnormal enlargement through prolonged distention of its walls. By taking care to see that the colon is emptied every day and that residues are not allowed to accumulate in considerable amount, the bowel is given a chance to recover its normal tone and to diminish in size and in other ways to mend its defects, although it rarely happens that this can be entirely removed. However, it should be the constant aim to restore the bowel as nearly as possible to a normal condition so it can perform its functions without mechanical aid. It must be admitted, however, that in the majority of

persons who have passed middle life and many persons of younger age, the colon has become so crippled that mechanical aid may be needed more or less constantly during the remainder of the individual's life in order to keep the colon free from putrefying residues and to avoid the consequent systemic poisoning which results from the long retention of intestinal wastes and residues.

4. Lactic acid is produced by the action of bacteria upon carbohydrates. A daily dose of 50 drops of lactic acid would not be likely to do any harm, but will not take the place of lactic acid produced in the colon by the action of the *Lactobacillus acidophilus* on lactose or dextrin, for the reason that when taken by mouth, it is quickly absorbed and hence never reaches the colon where alone its services will be likely to be of value.

5. In order to make sure of getting all the food minerals and other essential elements required for complete nutrition, it is best to take a very considerable variety of foods and to make more or less free use of all the different parts of the plant,—fruit, leaves, roots, seeds.

6. Kelp contains most of the elements found in sea water, among which iodine is prominent. It should be remembered, however, that food minerals alone are not sufficient. Equally important are the vitamins, and these are found in greatest abundance and in association with the richest source of food minerals in greens of all sorts.

7. It scarcely seems probable that the convulsions were produced by formaldehyde or that the milk contained formaldehyde. This drug imparts so unpleasant a flavor that it is not likely to be used as a food preservative.

8. No food inspector will permit the use of formaldehyde in meats or other foodstuffs.

The Effect of Exercise on the Pulse

H. G. M., Ga., asks: Will you give me some information as regards the acceleration of a normal heart under strenuous exertion, such as a weight lifter doing a number of rapid deep knee bends with a heavy weight on the shoulders, a 100 or 220 yard dash man toward the end of his run—in other words the top acceleration. What would be in your opinion a reasonable margin of safety? I presume it would depend a lot on the individual as I notice in my own particular case, after going through a set of exercises, my pulse, as compared with another doing the same group of exercises, accelerates more than my competitor's.

Answer.—The amount of acceleration of the pulse by a given amount of exercise depends upon so many different factors no exact figures can be given. When the normal pulse is 70, vigorous exercise will usually double the rate. But after exercise the healthy heart will usually return to its normal rate within four or five minutes. If the heart is not accustomed to exercise a longer time will be required for the return to the normal rate. And a still longer time in case the heart muscle is degenerated, the result of myocarditis. Loss of sleep, a nervous temperament and various other causes may induce undue acceleration of the pulse.

Ringling in the Ears — Hernia

L. D. B., Missouri, asks: 1. What causes ringing in the ears, especially in the morning when awakening?
2. Is there any kind of serum that will cure hernia? If so, is it dangerous and is it efficacious?

Answer.—1. Noises in the ears may be due to various causes. The most frequent is disease of the middle ear. There is no panacea and no simple

remedy. You should consult a good ear specialist.

2. We know of no serum which will render service in the treatment of hernia. You should consult a good surgeon.

Should the Aged Take Iron? Vegetable Fats — Bleached Asparagus—Constipation

A. L. P., New York, asks: 1. Is it advisable for persons between sixty and one hundred to take iron? Does it increase their resistance and energy? Can those with slightly high blood pressure take it?

2. How can a layman determine whether his system is in an acid or alkaline condition?

3. If one is naturally alkaline, should he take Lacto-Dextrin?

4. Is there a vegetable fat in the market which can take the place of butter in cooking?

5. Is there any difference in food value between white and green asparagus tips? Growers claim that the white possess a value which the green lose from contact with the air and sunlight.

6. Does extreme constipation indicate either an acid or alkaline tendency?

7. What diet will lessen or correct extreme dryness of the skin?

Answer.—1. Every person needs iron, not laboratory iron, but food iron such as Nature provides in abundance in spinach, kale, turnip leaves, parsley and greens of all sorts. Iron is needed for blood building and in this way promotes vital resistance and energy for, in the words of Holy Writ, "The blood is the life." The existence of high blood pressure is not a contraindication for the free use of iron-rich foods.

2. When the tissues contain an excess of acids, the urine, which is an extract of the tissues, will show a high degree of acidity. This may be readily recognized by means of litmus or some other test paper.

3. Lacto-Dextrin is neither acid nor alkaline and does not influence the bodily condition in this respect.

4. Yes, there are several vegetable fats which may be used as substitutes for butter in cooking, but it should be clearly understood that none of these are capable of fully taking the place of butter as they are deficient in vitamin A. This deficiency, however, may be made good by the free use of parsley, spinach and other greens.

5. Green asparagus is rich in vitamins, whereas the bleached asparagus contains none. The growers are mistaken. Bleached asparagus and other bleached greens lose their greatest value through bleaching.

6. No, except that the same conditions which produce acidosis are likely to encourage constipation.

7. Dryness of the skin is due to deficiency of the activity of the thyroid gland. Chronic intestinal poisoning wears out the gland and exhausts it with overwork. Change of the intestinal flora, a non-flesh dietary and the free use of vitamin rich foods will lighten the work of the thyroid and in this way encourage skin activity. Sun bathing, warm baths, rubbing the skin with lanolin cream and improved circulation of the skin encourage normal activity.

The Soy Bean for Diabetics

W. E. K., Ohio, asks: 1. Is the soy bean flour and the soy bean safe for the diabetic?
2. Battle Creek Food Company's soy beans are available here in cans. Is this a safe diet for a diabetic?

3. Does the soy bean and the soy bean flour contain too much starch for the diabetic?

Answer.—1. Yes, the soy bean in all forms is useful for diabetics.

2. Yes.

3. The soy bean is almost free from starch. The carbohydrates of the soy bean are of a sort that can not be utilized as food.

The Cause of Cancer

CANCER is one of the most dreaded of diseases. Because it kills annually 100,000 persons in this country alone and is rarely cured, it has been the object of more research by laboratory experts, clinicians and statisticians than any other disease, but its cause is still a mystery.

Recently, Dr. Frederick L. Hoffman, famous statistician of the Franklin Institute, has announced the opinion that cancer is caused mainly by eating too much.

Twenty years ago, it was observed that Jews were less subject to cancer than people of other nationalities. This view was based upon the fact that the mortality from cancer was found to be much less among quite a considerable body of hard-working, poorly fed Hebrews living in the east side of London. This apparent immunity from cancer was attributed to the fact that orthodox Jews in abeyance of the Mosaic demand, avoided the use of swine's flesh.

Later, the discovery was made that cancer was quite as frequent among the wealthy Jews of Hyde Park, London's rich residential section, as among the general population, so this theory was abandoned. There remains, however, the fact in favor of Doctor Hoffman's theory that the underfed Jews of the east side suffered much less from this horrible disease than the luxury-loving Hebrews of Hyde Park.

At the Panama-Pacific Exposition held in San Francisco, to celebrate the opening of the Panama Canal, Hoffman presented a remarkable and very graphic statistical exhibit showing the mortality from cancer in every country in the world in which statistical studies had been made. This exhibit brought out very definitely and clearly the fact that cancer was by far most frequent in countries in which the consumption of meat was highest. The association of high mortality from cancer with high meat consumption was so constant that almost no excep-

tions could be found. Attention, however, has been called to the fact that although the native Eskimos of the Arctic region subsist upon an almost exclusive meat diet, it is not known that death from cancer is frequent among them. However, it must be considered that no studies have been made on the subject on which a sound opinion could be based.

Another significant fact is worthy of consideration. Cancer is a disease of middle and advanced age. It may almost be said that the Eskimo dies of old age before he is old enough to die of cancer.

Captain MacMillan told the writer that it is rare to find an Eskimo much over fifty years old. They go to pieces rapidly after middle age, and those who live to the age of fifty-five, are exceedingly decrepit and infirm.

Whatever may be the cause of cancer, it is known to be something associated with what is called *modern civilization*. When Captain Cook discovered the Marquesas Islands, he found a group of more than 40,000 whom he reported to be marvelously fine specimens of health and vigor, and wholly free from disease. These people knew nothing of cancer, tuberculosis, or any other of the great plagues which afflict civilized people everywhere. Under the destructive influences of civilization, the once happy Marquesans have become almost extinct; only a few hundred remain.

Cancer is a disease of civilized people and domestic animals. Wild men and wild animals know nothing of its terrors.—*J. H. K.*

Fighting the Menace of Venereal Disease

A GREAT impetus has been given in the last twelve-months to the campaign against venereal diseases. The old conspiracy of ignorance and silence has been replaced by bringing the subject into the open and revealing to the public the evils wrought to the innocent as well as the guilty by these maladies.

Most encouraging have been the quotations from the experience of other countries, especially Sweden, in overcoming this menace.

Surgeon General Parran called a great meeting of health officials and social hygiene executives at Washington and started the movement. He has made the prevention and control of syphilis a major objective of the United States Public Health Service. The Social Security Act provides funds applicable to venereal disease control through state and city departments of health. The press is cooperating vigorously, and so are such groups as the General Federation of Women's Clubs and the National Council of Women. Numerous social hygiene societies have been formed throughout the country.

A talking picture has been produced by the government and the American Social Hygiene Association, "For All Our Sakes," which deals with syphilis. The association jointly with the National Research Council has also directed public attention to the problem of gonorrhea. Other educational influences are at work and there can be no doubt that enormous good will be accomplished.—*S.*

Mohammed's Health Teaching

MOHAMMED, the founder of a religious cult which numbers more adherents than any other, was much more than a religious enthusiast. His attitude toward health and the welfare of the body clearly indicate that he had a highly penetrating mind. One of his followers, Dingizli, a native of Tunis, cites the following quotation from his writings:

"The study of the science of the human body shall be given the preference over the study of the religious sciences. . . . If it were not for that fine dust which we see floating in the sunbeam, and if it were not for the danger from stagnating waters, Adam's son would live ten centuries."

Precautions against Electric Shock

ELECTRICAL injuries were formerly suffered mostly by linemen, telephone workers and the like but are now fairly common in the home. This is because of the greatly increased use of electrical apparatus of all kinds. There was an increase of 6.5 per cent in deaths from electric shock in 1934 as compared with 1933. The tendency had been strongly downward for twenty years.

Dr. Douglas Macfarlan (*Archives of Physical Therapy, X-ray, Radium*) says that lightning and high tension currents are not the only dangers; the apparently harmless house circuit may inflict serious or even fatal injuries. Many of the effects of electric shock are not immediately manifest. There is muscle degeneration and atrophy from spinal cord damage. These may not begin until weeks or months after the accident; the later their appearance, the more serious the condition. It is slow, progressive and intractable.

Sometimes the resulting symptoms resemble war neuroses in the characteristic timidity, fear, uncertainty, lack of memory and inability to concentrate. Mental inertia and amnesia are commonly seen.

It is believed that electric burns are less painful and heal more rapidly than others. In shocks there may be death from a stalled heart. Often injuries are received from a fall which may follow the exposure.

Dr. Macfarlan warns against amateur electricians. He says the domestic hand iron and curling iron frequently cause accidents since they are likely to be used in the bathroom, where ideal "wet" short circuits can be made. He tells of an elderly man who while in a bathtub containing an inch or two of water, reached for a hand vibrator to plug in for a massage. He was found dead.

Dr. Richard Kovacs in discussing the paper gave two

precautionary rules. One was never to touch an electrical appliance while standing in water, on a damp floor, or while any part of the hands or feet was wet; the second, never handle two electrical fixtures at the same time. There is always danger of a worn-out installation in one of the apparatus.—S.

Automatic Rest for the Brain

THE LONDON bus driver who spent his holiday riding around with a fellow worker has his virtual counterpart in many business and professional men. When tired from their mental labors, they play bridge or chess for recreation. There is thus only a partial change in their program — they are still using their overtaxed minds. It would be better for them to indulge in physical exercise and thus give the brain a complete rest. The physical worker might appropriately spend his evenings at bridge or chess or study.

When a man is tired from manual labor he wants to sit down and take life easy. But mental fatigue may also bring physical lassitude, and then there is often a restlessness which demands mental occupation. This vicious circle may bring on brain fag or exhaustion.

Nature provides a decided rest for the heart between beats. She apparently has a similar plan for the work of the brain. Professor Arthur G. Bills, of the University of Chicago, has learned that the mind "blocks" several times every minute during active mental labor, thus giving the brain cells a rest, reports the *Journal of the Iowa State Medical Society*. When fatigue sets in, the "blocks" may appear as often as eight or ten times in a minute and last as long as four seconds. Although mental efficiency is then low, sequence of thought is not entirely lost. Public speakers sometimes hesitate, filling in with "er-r-r" or "ah-h-h" when in this condition. In doing

rapid calculation, one is frequently compelled to halt for a brief space, and in some instances may even have to start over again.

These "blocks" are apparently a protective mechanism in behalf of the brain.—S.

More and Better Babies in Germany

IN ORDER to combat race suicide and to build up an aristocracy of health, Germany makes loans to selected young couples. Each pair receives from \$200 to \$480 in the form of coupons which are exchanged for household goods. Repayment is made at the rate of one per cent a month, beginning after three months. Birth of a child reduces the original indebtedness one-fourth and postpones further payments for one year. No interest is charged.

Both man and woman must submit to an exhaustive examination which is not only physical but mental as well and covers the family history. Character is considered also. Anything which indicates unfitness to bring forth desirable offspring bars the loan. The woman must give up any outside work and not return to it so long as her husband earns as much as \$50 a month. In this way jobs are created for the unemployed.

Money for the loans is raised by graduated income taxes on single persons and childless couples between the ages of eighteen and fifty-six. In something like two years \$104,000,000 was thus collected and lent to 636,000 couples. Two out of five of these have had children. From 1932 to 1934 there was an increase of 203,018 or twenty per cent in the number of births in Germany. Other factors than these marriage loans were also concerned in this.

An account of this program by Marie E. Kopp, Ph. D., appears in the *Eugenical News*.—S.

Dangers Lurking in Milk

"A DVICE to drink more milk is futile, if not harmful, unless the milk is clean and pasteurized and therefore free from dangerous possibilities of transmitting infectious disease." — (*Journal of the American Medical Association*.)

Announcement is made that the United States Public Health Service has published its seventh annual rating of the compliance in cities with the Standard Milk Ordinance and Code. In communities in which all market milk is pasteurized, only four in two states had a rating of ninety or better, which is the standard of excellence set. Among communities in which part of the milk is treated, eighty-one in nineteen states had a record of ninety or more for both raw and pasteurized milk. Fifty cities in nine states where only raw milk is sold met the required conditions.

In Chicago, in the spring of 1935, the pasteurized milk rating was fifty-nine per cent, while in January, 1937, it was ninety-seven per cent. Epidemics traced to raw milk are reported every year. In Owego, N. Y., 500 cases of scarlet fever were traced to the milk of one cow. Home pasteurization is advised where only raw milk can be obtained. The milk should be heated in an aluminum vessel on a hot flame to 155 degrees, with constant stirring, then the container should be set in cold water, being stirred continuously until cool.

The dangers of infected milk were considered at a meeting of the section of medicine of the Royal Society of Medicine in London. Dr. W. G. Savage divided the subject into two groups — human infections associated with infection from the cow, and diseases spread through human infection of milk. In England and Wales about six per cent of all deaths from tuberculosis were caused by the bovine type of bacillus. Raw milk samples even of high

grade contained the organism of undulant fever in from eight to ten per cent of cases. However, this infection was rare in man in comparison with its widespread infection of milk.

Although only human streptococcal infections of the udder are infective to man, these outbreaks might be of considerable importance because they were so widespread. Dr. Savage had particulars of twenty outbreaks of *Salmonella* infections due to cows. In eight of them the numbers of persons affected ranged from 110 to 523 (*British Medical Journal*).

Diphtheria, scarlet fever, typhoid and paratyphoid fever, and dysentery might be spread through milk. In one outbreak in 1935 there were 487 notified cases of typhoid and about 2,000 cases of illness, with six deaths. —S.

Cane Sugar Causes Teeth Decay

SUGAR is indicated as a cause of dental decay by Dr. L. M. Waugh, head of a Columbia University dental research expedition in Alaska. He examined Eskimos in remote areas on Bering Sea and found them with practically perfect teeth so long as they stuck to their native diet. But when they ate the white man's food, they began to have tooth defects. Dr. Waugh said that natural sugar should be substituted for the refined article in our national dietary. Fruits contain a natural sugar, an apple having the equivalent of a teaspoonful of refined sugar.

Two Notable Discoveries

ABOUT six thousand years ago two important discoveries relating to food were made in the valley of the Nile. The first was the discovery and practice of irrigation, whereby the flood water was harnessed and the harvest guaranteed for man and the animals which were undergoing domestication.

This was the origin of agriculture. The Egyptians also discovered that the amount of vegetable food which could be raised on a given piece of land had many times the nutrient value of the animal food which could be raised thereon. This was the economic triumph of vegetarianism, and even to this day the proportion holds good. Vegetable food should not cost more than one-fifth the price of animal food. If a real steak costs 40 cents, a much better nut-steak should not cost more than 18 cents. This proportion of five to one is still the most valuable index to the housewife of the true price of food.—*The Listener*.

Pseudo Centenarians

THERE are many stories in the newspapers about men and women who are believed to be far more than a hundred years old. But life insurance records, covering one hundred and fifty years and millions upon millions of policy holders, do not show any individual who passed the mark of one hundred and six years. A writer in the *New York Times* explains that mistakes sometimes occur when a child dies, and perhaps years later, another child of the same parents receives the same name. The earlier date of birth may thus be ascribed to the brother or sister who was born much later. In one instance where mother and child had the same name, the dates of birth were confused and hence the child was supposed to have reached an extreme age. Records show that about thirty persons of every million born reach the century mark. Most of these are women. There are stories of whales and elephants living for a very long time but apparently man can live longer than any other animal.

When a man loses his health, then he begins to take care of it. —*Josh Billings*.

The Rat a Health Menace

THE RAT was formerly considered merely an economic problem. It is now known, however, that the animal not only damages and destroys property but through its parasites spreads certain diseases, especially bubonic plague and typhus fever. So important is this menace that in 1928 and again in 1931, an international conference on the rat was held in Paris.

When an epidemic of plague or typhus breaks out, there is always a vigorous campaign to kill rats. At intervals such drives are held in various places; some of these in recent years have been financed by PWA funds. Ferrets, trapping and poisoning are all used and the slaughter is considerable. But then the rodent is forgotten and his prolific breeding enables him to fill up the ranks again.

In a paper which appears in *Public Health Reports*, B. E. Holsendorf, of the United States Public Health Service, argues that something basic and different must be done if the rat evil is to be controlled. He believes that this can only be achieved if rat harborage is ended. Many buildings have been erected with open spaces which make ideal homes for the rodents. Furniture and equipment often furnish retreats, as to masses of rubbish and stored materials.

Buildings should be erected ratproof — that is, should have no unnecessary enclosed spaces, be of rat-proof construction and have rat-proof installation of equipment. Regular inspection should be maintained so that no hiding places are allowed to exist.

When there was bubonic plague in Ecuador and Peru, it was found that rats living in buildings carried the most cheopis, the fleas which spread infection. Those living outside had so few fleas that they were not really a menace. In Hawaii also rats caught three or four

hundred feet from buildings were practically free of parasites.

It is the public that provides food and shelter for rats. Not until people are sufficiently aroused to the evil will anything effective be done.—S.

English Vegetarians Break World Records for Endurance in Cycling Contests

A ONE-ARMED vegetarian, Walter W. Greaves, has broken the world's record for bicycling mileage in a year. He started from Bradford, England, January 6, 1936, planning to surpass the mark of 43,996 made by Oswald Nicholson, in Australia. On December 13 he rode triumphantly into Hyde Park, London, and accomplished his purpose. He continued to ride, however, and on December 31 had set up a record of 45,383 miles. Presumably he continued the remaining five days of his twelvemonth and reached a final figure of about 46,000. Nicholson had had the advantage of the Australian climate, of riding much of the time on a track and of having a specially designed bicycle.

Not only does Greaves eat no meat but he does not smoke and drinks no alcoholic stimulants. To furnish energy for his tremendous feat, he ate daily four quarts of milk, one and one half pounds of brown bread, three-quarters of a pound of butter, one and one half pounds of tomatoes and half a pound of apples. He started out weighing 147 pounds and varied little either way. His average for the whole period was a trifle more than 126 miles per day. He rode from twelve to fourteen hours out of the twenty-four, his longest run being 375 miles in two days. His route lay on the regular highways of central and north England and of Scotland.

In the last two months of 1936, his average was 160 miles a day; evidently he was not

wearing out. Greaves lost his left arm in an accident at the age of fourteen.

The number of the *Vegetarian News* which recounts this exploit tells of the successes won by the eighty-six active racing members of the Vegetarian Cycling and Athletic Club in 1936. The list covers five pages. These men made the fastest times in twenty-four and second fastest times in twelve club events organized by clubs other than their own. A number of records were broken. One member established a new figure from Edinburgh to London of twenty-one hours and twenty-eight minutes, but was disqualified on purely technical grounds.—S.

Goiter from Polluted Water

A NIMAL experimentation has been very helpful in medical research but there are advantages in human tests, according to Major General Sir Robert McCarrison. In a lecture delivered in London and printed in part in the *British Medical Journal*, this eminent authority told of a study which he had made as a young physician in India, relating to the cause of goiter. This disease was not found in villages which had a pure water supply. He and thirty-five other volunteers for fifty-six days drank water containing suspended matter taken from the water supply of a village where nearly half the population had goiter. Ten of the subjects, including himself, developed noticeable enlargement of the thyroid gland and five had transitory swellings.

Later Sir Robert became convinced that this disease was fostered not only by polluted water but also by unsanitary living conditions, intestinal infection, lime, fats, fatty acids and cyanogen compounds, and by deficiency in iodine, vitamins, proteins and phosphates. He disagrees with the theory that lack of iodine is the one and only cause of goiter.



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Communal Feeding in Russia

THE RUSSIAN government has set up large scale feeding for families for two reasons. The first is economy of time and the second is better nutrition. Some interesting details of this plan are quoted in the *Lancet* from a book written by F. Le Gros Clark and L. Noel Brinton. The scarcity of food which prevailed in that country was perhaps also a factor, for housewives are sometimes wasteful in the preparation of materials. In a big "kitchen factory," use would be made of everything received. It is suggested that when food again becomes plentiful, the Russians may wish to return to the domestic cooking arrangement.

The calculation has been made that under the old individualistic system, thirty million Russians spent ten hours a day in cooking, laundry and the care of children. Collective methods mean a saving of something like five-sixths in the labor of cooking. The restaurants have been in charge of experts who are known as "engineers of social feeding." The dishes are prepared properly and the menu is designed to give the best possible nutrition.

Since there is little unemployment in Russia, when a worker gets sick, he leaves a gap in the factory. So the government feels it advantageous to serve special meals to those who have medical need of them.

The same number of the *Lancet* contains an account of extensive surveys made of the diets of various groups in England. It was concluded that while limited means was an important factor in ill-balanced and inadequate feeding, ignorance also played an important part. It is likely that the Russians, even more than the English, are in need of instruction in scientific diet. The authors of the book describe the plan as "one of the greatest cultural experiments the world has ever seen."—S.

In Which We Answer a Question Often Asked

MANY people who have never visited Battle Creek ask the question: "What is the Battle Creek Sanitarium?"

The answer is that the Battle Creek Sanitarium is primarily an up-to-date, scientific medical institution.

On the staff are fifty physicians, several of them of international reputation. Treatment of nearly two hundred thousand patients for almost every known type of disease over a period of fifty years, has given the Sanitarium a background of knowledge and experience probably surpassed by no other medical institution.

The Sanitarium has brought together under unified control all the resources that modern medical science has to offer in the diagnosis and treatment of disease. To this end no expense has been spared. Members of the staff are always on the alert for new developments and are quick to employ them as soon as they have proved their value.

Experience has shown that there are three distinct types of benefits that medicine can confer upon mankind:

First: Health education—that is, teaching people how to live in order that their bodies may function with maximum efficiency, thereby avoiding disease and premature old age.

Second: Taking bodies that have been abused by improper living and, by corrective measures, restoring damaged parts to normal functioning.

Third: Alleviation of the suffering and extension of the life expectancy of those af-

flicted with incurable diseases, by means of carefully controlled treatment and a program of right living

This calls for many and varied applications of modern medicine. Diet and advanced therapeutic methods constitute a very important part of the treatment, but surgery has its place and is used when necessary. A complete modern hospital is part of the Sanitarium equipment.

To the Battle Creek Sanitarium medical science owes many fundamental discoveries of great importance. Research work is continually in progress. Two scientific laboratories are maintained for the study of nutritional problems and the relations of foods to disease. The X-ray department is recognized as one of the most complete in existence and out of it have come many important advances in technique and treatment.

The program of diagnosis, treatment and health by training that is known as the Battle Creek Idea,

has penetrated to the most remote corners of civilization. To the Battle Creek Sanitarium, therefore, come thousands of people each year—from all walks of life and from all parts of the world—with assurance that here they will receive all the benefits that modern medical science has to offer.

Those who desire more detailed information about the Battle Creek Sanitarium and its methods are invited to write for descriptive literature. Address—

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*Looking through the Magnificent Colonnade,
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Ordinary diarrheal disease, which is highly fatal to very young infants, is quickly cured by the use of Soy Acidophilus Milk with Lacto-Dextrin (sold at leading drug stores). Even in cases due to infection with amebæ, or other parasites, great improvement quickly follows the use of this simple remedy, though, of course, other measures are needed for a cure.

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The Battle Creek Food Company offers to send FREE a liberal sample of Soy Acidophilus culture to the mother or nurse of any infant suffering from bowel trouble, on receipt of her address with ten cents to cover the cost of mailing, with directions for use.

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